TOSHIBA G8000 Series UPS

Installation Planning Guide for 100kVA UPS

Standard System: 480V Input, 480Y/277V Output

General Mechanical Information		
Dimensions (W x D x H)	Weight	Approximate Full-Load Heat Loss
Inches	Lbs.	Btu/Hr
55.1 x 31.5 x 78.75	2,756	30,840

Primary AC Input (480V 3-Phase / 3-Wire)					
Maximum Input Power Demand			Suggested External Overcurrent Protection	Suggested Minimum Feeder Wire Size Per Phase	Suggested Maximum Feeder Length For Min. Wire Size in Steel Conduit
kVA	PF	Amps	Amps	AWG or kcmil at 75º C Temp. Rating	Feet
100	>0.98	120	150 AT	(1) x 1/0	480

Alternate (Bypass) AC Input (480V 3-Phase / 4-Wire)					
Maximum Input Power Demand			Suggested External Overcurrent Protection	Suggested Minimum Feeder Wire Size Per Phase / Neutral	Suggested Maximum Feeder Length For Min. Wire Size in Steel Conduit
kVA	PF	Amps	Amps	AWG or kcmil at 75º C Temp. Rating	Feet
100	0.8	120	150 AT	(1) x 1/0 / (1) x 4/0	380

Battery Input (360VDC Nominal)				
Battery Capacity Required for Full Load Output	Maximum Discharge at Full Load Output	Suggested External Overcurrent Protection	Suggested Minimum Feeder Wire Size Per Phase	Suggested Maximum Feeder Length For Min. Wire Size in Steel Conduit
kWB	Amps DC	Amps	AWG or kcmil at 75º C Temp. Rating	Feet
86.9	301	400 AT	(2) x 3/0	70

AC Output (480/277V 3-Phase / 4-Wire)					
Rated Output Power			Suggested External Overcurrent Protection	Suggested Minimum Feeder Wire Size Per Phase / Neutral	Suggested Maximum Feeder Length For Min. Wire Size in Steel Conduit
kVA	PF	Amps	Amps	AWG or kcmil at 75º C Temp. Rating	Feet
100	0.8	120	150 AT	(1) x 1/0 / (1) x 4/0	380

Important Notes:

1. Maximum Current required at Primary AC Input based on full load output and maximum battery charging current.
2. Output load conductors are to be installed in separate conduit from input conductors.
3. Control wires and power wires are to be installed in separate conduits.
4. Recommended AC input and output overcurrent protection based on continuous full load current per NEC.
5. Wiring shall comply with all applicable national and local electrical codes.
6. Grounding conductors to be sized per NEC Article 250-122. Neutral conductors to be sized per NEC Article 310.15.
   - Primary AC Input: 3ϕ, 4-wire + ground.
   - Alternate AC Input: 3ϕ, 4-wire + ground.
   - AC Output: 3ϕ, 4-wire + ground.
   - DC Input: 2-wire (Positive/Negative) + ground.
7. Nominal battery voltage based on the use of VRLA type batteries (2.0 volts/cell nominal).
8. Maximum battery discharge current based on lowest permissible discharge voltage of 1.6 VPC.
9. DC wires should be sized to allow not more than a 2-volt drop at maximum discharge current.
10. Weights do not include batteries or other auxiliary equipment external to the UPS.
11. Sizing calculations based on the following assumptions:
    - Not more than 3 current-carrying conductors installed in steel conduit in ambient temperature of 30 degrees C.
    - Temperature rating of conductors and terminals: 90 deg. C.
    - Feeder distance calculations based on NEC Tables 8 and 9 data, allowing for 2% AC voltage drop.
    - Reference: 2002 NEC Handbook. Consult latest edition of applicable national and local codes for possible variations.
12. Ratings of wires and overcurrent devices are suggested minimums. Consult with a registered Professional Engineer within your local area for proper size selections.

TOSHIBA INTERNATIONAL CORPORATION
13131 West Little York Road
Houston, TX 77041
Telephone: (800) 231-1412
Fax: (713) 896-5212
Corporate Web Site: www.tic.toshiba.com
Group Web Site: www.toshibaups.com